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Jews are the genetic brothers of Palestinians, Syrians, and Lebanese, study finds

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Summary: If a common heritage conferred peace, then perhaps the long history of conflict in the Middle East would have been resolved years ago. For, according to a new scientific study, Jews are the genetic brothers of Palestinians, Syrians and Lebanese, and they all share a common genetic lineage that stretches back thousands of years.

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If a common heritage conferred peace, then perhaps the long history of conflict in the Middle East would have been resolved years ago. For, according to a new scientific study, Jews are the genetic brothers of Palestinians, Syrians and Lebanese, and they all share a common genetic lineage that stretches back thousands of years.

"Jews and Arabs are all really children of Abraham," says Harry Ostrer, M.D., Director of the Human Genetics Program at New York University School of Medicine, an author of the new study by an international team of researchers in the United States, Europe, and Israel. "And all have preserved their Middle Eastern genetic roots over 4,000 years," he says.

The researchers analyzed the Y chromosome, which is usually passed unchanged from father to son, of more than 1,000 men worldwide. Throughout human history, alterations have occurred in the sequence of chemical bases that make up the DNA in this so-called male chromosome, leaving variations that can be pinpointed with modern genetic techniques. Related populations carry the same specific variations. In this way, scientists can track descendants of large populations and determine their common ancestors.

Specific regions of the Y chromosome were analyzed in 1,371 men from 29 worldwide populations, including Jews and non-Jews from the Middle East, North Africa, sub-Saharan Africa, and Europe.

The study, published in the May 9 issue of the Proceedings of the National Academy of Sciences, found that Jewish men shared a common set of genetic signatures with non-Jews from the Middle East, including Palestinians, Syrians, and Lebanese, and these signatures diverged significantly from non-Jewish men outside of this region. Consequently, Jews and Arabs share a common ancestor and are more closely related to one another than to non-Jews from other areas of the world.

The study also revealed that despite the complex history of Jewish migration in the Diaspora (the time since 556 B.C. when Jews migrated out of Palestine), Jewish communities have generally not intermixed with non-Jewish populations. If they had, then Jewish men from different regions of the world would not share the same genetic signatures in their Y chromosome.

"Because ancient Jewish law states that Jewish religious affiliation is assigned maternally, our study afforded the opportunity to assess the contribution of non-Jewish men to present-day Jewish genetic diversity," says Michael Hammer, Ph.D., from the University of Arizona, Tucson, who is the lead author of the new study. "It was surprising to see how significant the Middle Eastern genetic signal was in Jewish men from different communities in the Diaspora," he says.

The authors of this study are: Dr. Ostrer from NYU School of Medicine; Michael F. Hammer, Alan J. Redd, Elizabeth T. Wood, M. Roxane Bonner, Hamdi Jarjanazil, and Tanya Karafet from the University of Arizona, Tucson; Silvana Santachlara-Benerecetti, University of Pavia, Italy; Ariella Oppenheim, Hebrew University of Jerusalem, Israel; Mark A. Jobling, University of Leicester, England; Trefor Jenkins, University of Witwatersrand, Johannesburg, South Africa; and Batsheva Bonne-Tamar, Tel Aviv University, Israel.

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Materials provided by **New York University Medical Center And School Of Medicine**. *Note: Content may be edited for style and length.*

Journal Reference:

1. M. F. Hammer, A. J. Redd, E. T. Wood, M. R. Bonner, H. Jarjanazi, T. Karafet, S. Santachiara-Benerecetti, A. Oppenheim, M. A. Jobling, T. Jenkins, H. Ostrer, B. Bonne-Tamir. **Jewish and Middle Eastern non-Jewish populations share a common pool of Y-chromosome biallelic haplotypes**. *Proceedings of the National Academy of Sciences*, 2000; 97 (12): 6769 DOI: 10.1073/pnas.100115997

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